

Abstract Submitted
for the DPP06 Meeting of
The American Physical Society

Single-crystal X-ray spectropolarimeter NINO PEREIRA, Ecopulse, Inc., E.O. BARONOVA, M.M. STEPANENKO, Kurchatov Institute, Moscow, Russia — Anisotropy in plasmas, e.g., related to a magnetic field or a directional velocity distribution of the electrons, is sometimes reflected in the polarization of the emitted X-ray spectrum. The usual way to do X-ray polarization spectroscopy is by Bragg reflection off two separate crystals, one for each direction of polarization. Since the two crystals see different parts of the plasma, it is possible that differences between the two polarized X-ray spectra are not caused by plasma anisotropy but come from the different scenes. The single-crystal X-ray spectropolarimeter suggested by Baronova and Stepanenko avoids this so-called scene problem, at the expense of using asymmetric reflections that are rarely considered in X-ray spectroscopy. In last year's presentation we analysed the geometry of the single-crystal X-ray spectropolarimeter in some detail. In this presentation we consider the instrument's crystallographic aspects in more detail.

N. R. Pereira
Ecopulse, Inc.

Date submitted: 17 Jul 2006

Electronic form version 1.4